

## Federal Communications Commission

## § 90.207

power for the particular transmitter specifically listed on the authorization.

[60 FR 37262, July 19, 1995, as amended at 62 FR 2039, Jan. 15, 1997; 63 FR 58651, Nov. 2, 1998; 64 FR 66409, Nov. 26, 1999; 67 FR 41860, June 20, 2002; 68 FR 38639, June 30, 2003; 69 FR 46443, Aug. 3, 2004]

### § 90.207 Types of emissions.

Unless specified elsewhere in this part, stations will be authorized emissions as provided for in paragraphs (b) through (n) of this section.

(a) *Most common emission symbols.* For a complete listing of emission symbols allowable under this part, see §2.201 of this chapter.

(1) The first symbol indicates the type of modulation on the transmitter carrier.

A—Amplitude modulation, double sideband with identical information on each sideband.

F—Frequency modulation.

G—Phase modulation.

J—Single sideband with suppressed carrier.

P—Unmodulated pulse.

W—Cases not covered above, in which an emission consists of the main carrier modulated, either simultaneously or in a pre-established sequence, in a combination of two or more of the following modes: amplitude, angle, pulse.

(2) The second symbol indicates the type of signal modulating the transmitter carrier.

0—No modulation.

1—Digital modulation, no subcarrier.

2—Digital modulation, modulated subcarrier.

3—Analog modulation.

(3) The third symbol indicates the type of transmitted information.

A—Telegraphy for aural reception.

B—Telegraphy for machine reception.

C—Facsimile.

D—Data, telemetry, and telecommand.

E—Voice.

N—No transmitted information.

W—Combination of the above.

(b) Authorizations to use A3E, F3E, or G3E emission also include the use of emissions for tone signals or signaling devices whose sole functions are to establish an to maintain communications, to provide automatic station identification, and for operations in the Public Safety Pool, to activate emergency warning devices used solely

for the purpose of advising the general public or emergency personnel of an impending emergency situation.

(c) The use of F3E or G3E emission in these services will be authorized only on frequencies above 25 MHz.

(d) Except for Traveler's Information stations in the Public Safety Pool authorized in accordance with §90.242, only J3E emission will be authorized for telephony systems on frequencies below 25 MHz.

(e) For non-voice paging operations, only A1A, A1D, A2B, A2D, F1B, F1D, F2B, F2D, G1B, G1D, G2B, or G2D emissions will be authorized.

(f) For radioteleprinter operations that may be authorized in accordance with §90.237, only F1B, F2B, G1B or G2B emissions will be authorize above 25 MHz, and A1B or A2B emissions below 25 MHz.

(g) For radiofacsimile operations that may be authorized in accordance with §90.237, only F3C or G3C emissions will be authorized above 25 MHz, and A3C emissions below 25 MHz.

(h) [Reserved]

(i) For telemetry operations, when specifically authorized under this part, only A1D, A2D, F1D, or F2D emissions will be authorized.

(j) For call box operations that may be authorized in accordance with §90.241, only A1A, A1D, A2B, A2D, F1B, F1D, F2B, F2D, G1B, G1D, G2B, G2D, F3E or G3E emissions will be authorized.

(k) For radiolocation operations as may be authorized in accordance with subpart F, unless otherwise provided for any type of emission may be authorized upon a satisfactory showing of need.

(l) For stations in the Public Safety and Industrial/Business Pools utilizing digital voice modulation, in either the scrambled or unscrambled mode, F1E or G1E emission will be authorized. Authorization to use digital voice emissions is construed to include the use of F1D, F2D, G1D, or G2D emission subject to the provisions of §90.233.

(m) For narrowband operations in a 3.6 kHz maximum authorized bandwidth, any modulation type may be used which complies with the emission limitations of §90.209.

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(n) *Other emissions.* Requests for emissions other than those listed in paragraphs (c) through (e) of this section will be considered on a case-by-case basis to ensure that the requested emission will not cause more interference than other currently permitted emissions.

[49 FR 48711, Dec. 14, 1984, as amended at 50 FR 13606, Apr. 5, 1985; 50 FR 25240, June 18, 1985; 52 FR 29856, Aug. 12, 1987; 54 FR 38681, Sept. 20, 1989; 60 FR 15252, Mar. 23, 1995; 60 FR 37263, July 19, 1995; 62 FR 2039, Jan. 15, 1997; 62 FR 18927, Apr. 17, 1997; 64 FR 36270, July 6, 1999]

### § 90.209 Bandwidth limitations.

(a) Each authorization issued to a station licensed under this part will show an emission designator representing the class of emission authorized. The designator will be prefixed by a specified necessary bandwidth. This number does not necessarily indicate the bandwidth occupied by the emission at any instant. In those cases where § 2.202 of this chapter does not provide a formula for the computation of necessary bandwidth, the occupied bandwidth, as defined in part 2 of this chapter, may be used in lieu of the necessary bandwidth.

(b) The maximum authorized single channel bandwidth of emission corresponding to the type of emission specified in § 90.207 is as follows:

(1) For A1A or A1B emissions, the maximum authorized bandwidth is 0.25 kHz. The maximum authorized bandwidth for type A3E emission is 8 kHz.

(2) For operations below 25 MHz utilizing J3E emission, the bandwidth occupied by the emission shall not exceed 3000 Hz. The assigned frequency will be specified in the authorization. The authorized carrier frequency will be 1400 Hz lower in frequency than the assigned frequency. Only upper sideband emission may be used. In the case of regularly available double sideband radiotelephone channels, an assigned frequency for J3E emissions is available either 1600 Hz below or 1400 Hz above the double sideband radiotelephone assigned frequency.

(3) For all other types of emissions, the maximum authorized bandwidth shall not be more than that normally authorized for voice operations.

(4) Where a frequency is assigned exclusively to a single licensee, more than a single emission may be used within the authorized bandwidth. In such cases, the frequency stability requirements of § 90.213 must be met for each emission.

(5) Unless specified elsewhere, channel spacings and bandwidths that will be authorized in the following frequency bands are given in the following table.

STANDARD CHANNEL SPACING/BANDWIDTH

Frequency band (MHz)	Channel spacing (kHz)	Authorized bandwidth (kHz)
Below 25 <sup>2</sup> .		
25–50 .....	20	20
72–76 .....	20	20
150–174 .....	17.5	<sup>1</sup> 3 20/11.25/6
216–2205 .....	6.25	20/11.25/
6 <sup>5</sup>		
220–222 .....	5	4
406–512 <sup>2</sup> .....	<sup>1</sup> 6.25	<sup>1</sup> 3 20/11.25/6
806–809/851–854 .....	12.5	20
809–824/854–869 .....	25	20
896–901/935–940 .....	12.5	13.6
902–928 <sup>4</sup> .		
929–930 .....	25	20
1427–1432 <sup>5</sup> .....	12.5	12.5
2450–2483.52 <sup>2</sup> .		
Above 2500 <sup>2</sup> .		

<sup>1</sup> For stations authorized on or after August 18, 1995.

<sup>2</sup> Bandwidths for radiolocation stations in the 420–450 MHz band and for stations operating in bands subject to this footnote will be reviewed and authorized on a case-by-case basis.

<sup>3</sup> Operations using equipment using a 25 kHz bandwidth will be authorized a 20 kHz bandwidth. Operations using equipment designed to operate with a 12.5 kHz channel bandwidth will be authorized an 11.25 kHz bandwidth. Operations using equipment designed to operate with a 6.25 kHz channel bandwidth will be authorized a 6 kHz bandwidth. All stations must operate on channels with a bandwidth of 12.5 kHz or less beginning January 1, 2013, unless the operations meet the efficiency standard of § 90.203(j)(3) unless specified elsewhere.

<sup>4</sup> The maximum authorized bandwidth shall be 12 MHz for non-multilateration LMS operations in the band 909.75–921.75 MHz and 2 MHz in the band 902.00–904.00 MHz. The maximum authorized bandwidth for multilateration LMS operations shall be 5.75 MHz in the 904.00–909.75 MHz band; 2 MHz in the 919.75–921.75 MHz band; 5.75 MHz in the 921.75–927.25 MHz band and its associated 927.25–927.50 MHz narrowband forward link; and 8.00 MHz if the 919.75–921.75 MHz and 921.75–927.25 MHz bands and their associated 927.25–927.50 MHz and 927.50–927.75 MHz narrowband forward links are aggregated.

(6)(i) Beginning January 1, 2011, no new applications for the 150–174 MHz and/or 421–512 MHz bands will be acceptable for filing if the applicant utilizes channels with an authorized bandwidth exceeding 11.25 kHz, unless specified elsewhere or the operations meet the efficiency standards of § 90.203(j)(3).

(ii) Beginning January 1, 2011, no modification applications for stations in the 150–174 MHz and/or 421–512 MHz